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ABSTRACT

This document presents the proceedings from the Lightspan Achieve Now Education Summit, a gathering of educators held to discuss effective education programs for children in Title I schools. Presentations were given by educators who have implemented educational models featuring a strong set of varied instructional strategies and support systems aligned to local standards and assessments, cooperative and individualized learning for students, and important roles for teachers, students, and parents. The presentations were as follows: (1) "Introduction" (James Marshall); (2) "Designing a Successful Districtwide Title I Program" (Gloria Gallegos); (3) "What is Lightspan Achieve Now and Why Does It Work?" (Bernice Stafford); (4) "Implementing Lightspan Achieve Now in Title I Programs to Extend Learning and Facilitate Family Involvement" (Larry Vaughn and Doris Fassino); (5) "If Schools Account for Thirty Percent of Test Score Variation and Families Account for Seventy Percent, Then What is a Hundred Percent Solution?" (Dale Mann); (6) "Lightspan Achieve Now Supports Effective Reading Strategies" (Jay Blanchard); and (7) "Lightspan's Comprehensive Approach to School Reform" (Richard Fairley). (KB)

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Extended Learning and Family Involvement Issues:

Proceedings from the Lightspan Achieve Now Education Summit

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New Orleans, Louisiana
January 10, 1999

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Extended Learning and Family Involvement Issues:

Proceedings from the Lightspan Achieve Now Education Summit

New Orleans, Louisiana • January 10, 1999

On January 10, 1999, over 200 educators gathered in New Orleans to discuss effective education programs for children in our Title I schools. Diverse perspectives were shared and captured into the following edited proceedings. Within the following pages, the reader will develop an understanding of the challenges facing Title I schools and share in a number of success stories where these challenges have been met and children have excelled.

Foreword

Shelley H. Billig, Ph.D.
RMC Research Corporation

In nearly every public opinion poll conducted in 1998 and thus far in 1999, education was identified as the number one concern. The public is worried - they fear our schools are deteriorating and unsafe places; our children are passing through the grade levels without sufficient understanding of basic concepts; and our society is suffering from problems associated with poverty, illiteracy, apathy toward society, and lack of preparation for the workforce.

Statistics on educational outcomes only partially bear out these fears. The National Assessment of Education Progress report, released in early 1999, showed that while we are not where we need to be, we are closing the achievement gap in both reading and mathematics. The recent Third International Mathematics and Science Study (TIMMS) released in 1998 showed similar results - while our students are improving dramatically in their mathematics performances, particularly in fourth grade, they are not sustaining that achievement into eighth grade and, in many cases, are not prepared to perform sophisticated mathematics operations in the workplace.

The studies on the impact of Title I (U.S. Department of Education, 1999a and 1999b; Billig, 1997; 1998) reveal that we are making progress with the populations of students most at risk of school failure. Slowly but surely, we are implementing more schoolwide programs, aligning our assessments and instructional approaches with standards; increasing community collaboration and parent involvement; and adopting whole school models of reform that have a track record of success. In some states, most notably Texas, we are also closing the achievement gap between minority and non-minority populations (TEA, 1998).

Schools that have been successful in overcoming challenges and dramatically raising student achievement share certain characteristics. They have a relentless pursuit of student achievement and a "no excuses" culture. They create conditions for success by formulating a shared vision and mission, putting appropriate resources and supports in place, and continuously monitoring their progress based on objective student results. Further, they build on the research on what works.

Most educators are familiar with this research and trust it because the data generally verify what we know to be true. We know (and the research confirms), for example, that:

- if students are interested and engaged in what is being taught, they learn more;
- when there is a clear set of content and performance standards and when learning objectives, instruction, and student assessment are tied to those objectives, teaching is more effective and test scores increase;
- when parents are more involved in their children's education, their children value school more and tend to do better;

- when parents are more meaningfully involved in schools, parents themselves develop higher self-esteem, have more positive attitudes toward schools, and become more involved in other community activities;
- individual students learn differently, and when we identify and use instructional strategies that build on their strengths, they will learn more, be more motivated to learn, become more resilient, and be more likely to remain in school;
- when there is a strong, facilitative leadership and a shared vision for success in a school, all stakeholders understand the mission and goals and are more likely to work together to help all children succeed;
- when there is continuous, high quality professional development and a professional culture that respects teachers' knowledge and scaffolds on their successful experiences, teachers feel more confident, try more strategies when the first ones do not work, and seek help to assist individual students so that no student falls through the cracks;
- when parents, guardians, community agencies, and businesses are partners in education, strong collaboration develops, more support for schooling is evident, and more resources are available to help children succeed;
- when teachers have a say and buy in to a new reform strategy, it is more likely to produce positive results in terms of climate and achievement;
- where there is a "no excuses" school culture that allows no student to fall through the cracks, achievement levels rise dramatically, and
- when there are supportive policies, adequate funds, and additional resources for those who need extra help, a more supportive environment for learning is established, a professional culture is more likely to develop, and student achievement is more likely to increase.

These "truths" have become self-evident, and are the foundation for success for every school.

How these factors play out in any particular school, though, is a matter of local concern. Each school is different and each has different strengths and needs, serves unique students, and has a different local context. Because these differences exist, there will never be a "magic bullet" or a single reform approach that will make schools successful.

However, there are models that raise the probabilities of success. These are programs and approaches that build on the research on what works in other places and tailors those approaches to meet local needs without compromising the integrity of the approach. They are models that feature a strong set of varied instructional strategies and support systems that are aligned to local standards and assessments, cooperative and individualized learning for students, and roles for all partners - teachers, students, and parents - to play. They are approaches that maximize human potential and show students the value of education.

The Lightspan Partnership has formulated an approach that has many of these features and that shows promise in dozens of schools across the nation. Educators who have implemented the program and those associated with Lightspan program development shared their experiences and results at the 1999 National Title I Conference. These proceedings are presented here and offer the reader insight as to the educational context for adoption, the strategies used for implementation, the actual activities involved, and the results that accrued.

As a reader, you should evaluate whether this makes sense for you. Will the program meet your needs? Does it have the components you believe will lead to success? Does it fit your vision for success? Can you get the commitment it will take to implement it well and persist over time?

If you are not sure, then read more research, call the schools that have been successful and ask them what they did, and continue on your search. If the answers to these questions are yes, yes, yes, yes, then waste no more time. Find the resources, gain the support of your stakeholders, and, as the students say, get to it.

Let's use the research and our experience to show the public that we can be successful in preparing all children for productive citizenship. Show them that we will accept no excuses and we will keep trying to find the ways to unlock the positive potential in every child. We will change the paradigm from "at risk" to "at promise"...and we will do it together - parents, students, teachers, administrators, community members - all of us, using the best research, the best practice, and the best effort we have.

Introduction

James Marshall
The Lightspan Partnership

Family involvement is vital to student success at school. The research is overwhelmingly clear: when parents play a positive role in their children's education, children excel. This is true whether parents are college educated, grade-school graduates, or dropouts; it holds true regardless of family income, race, or ethnic background. What matters most is that parents have a positive attitude about the importance of a good education and that they express confidence that their children will succeed. Major benefits of family involvement include higher grades and test scores, positive attitudes and behavior, more successful academic programs, and more effective schools. A comprehensive and effective family involvement program involves parents as learners, teachers, school supporters, and advocates for their children with the school. Parents provide a vital link in the school-home communications chain (Henderson and Berla, 1994).

Case Study: Las Cruces Public Schools

Las Cruces, New Mexico

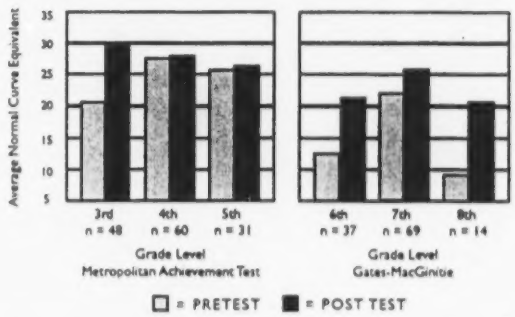
Las Cruces Public Schools serves one of the poorest counties in the nation, with more than half of the students living at or below the poverty level. In addition, a high proportion of students are Limited English Proficient (LEP), and an even higher proportion of parents have limited English abilities. To address these challenges and to aid the high population of at-risk students, the district developed several initiatives, including the Take-Home-Computer program using Lightspan Achieve Now. The curriculum-based program addressed the district's primary criteria, which included implementing a program with a reading and language arts focus, increasing family involvement, extending learning time, supporting state-of-the-art curricula, meeting Title I requirements, and motivating students to learn.

The program was implemented in a reading lab setting using Lightspan Achieve Now with small groups of six to twelve students. Families attended orientation meetings to learn how to use the home materials and received instruction on how to help their children use the program. The meetings also provided opportunities for teachers to dialogue with parents and receive feedback about the program. Once students became familiar with the curriculum, teachers assigned the Lightspan Achieve Now software as homework, providing practice and reinforcement of concepts introduced in the lab and extending the learning day into the home.

To evaluate program effects, participating third- to fifth-grade students were pre- and post-tested using the Metropolitan Achievement Test, Sixth Edition (MAT6), Reading Diagnostic Tests. Students in grades six to eight were tested using the Gates-MacGinitie Reading Test. In addition, perspectives of participating parents and students were gained through a district-developed survey instrument.

Vocabulary NCE gains realized at every grade level

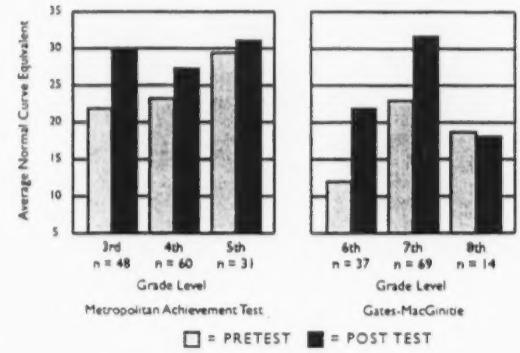
PRE-POST SCORE COMPARISON—VOCABULARY



At every grade level, students using Lightspan Achieve Now realized NCE gains in vocabulary. Eighth-grade students demonstrated the greatest gains: an increase of 12.1, with NCE averages moving from 8.4 to 20.4. Gains for the other grades ranged from .5 for fourth grade to 9.3 for third grade.

Reading Comprehension NCE gains between 1.6 and 9.8

PRE-POST SCORE COMPARISON—READING COMPREHENSION



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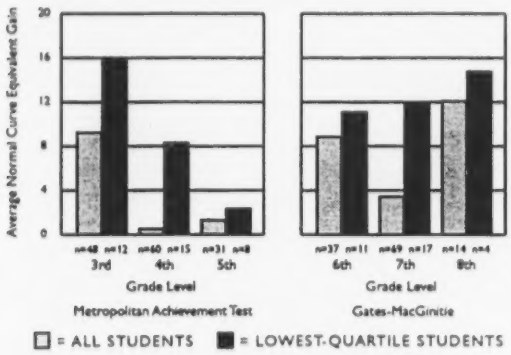
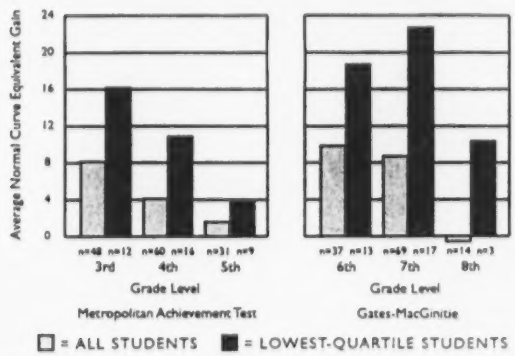
Third-grade to seventh-grade students realized average NCE gains in reading comprehension. Sixth-grade students showed the greatest improvement in reading comprehension, with NCE scores increasing from 12 to 21.8 for a gain of 9.8. Post-test results for the other grades varied from 8.7 for seventh grade to -.6 for eighth grade.

Impressive NCE gains posted by lowest-quartile students

GAIN SCORE COMPARISON—VOCABULARY



GAIN SCORE COMPARISON—READING COMPREHENSION

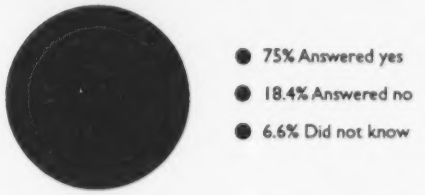


Across all grade levels, students who pre-tested in the fourth, or lowest, quartile achieved dramatic gains. In vocabulary, average NCE gains for lowest-quartile students ranged from 2.3 for fifth grade to 15.9 for third grade. In reading comprehension, average NCE gains ranged between 3.9 for fifth graders and 22.7 for seventh graders. The average gains for the lowest-quartile students were greater than those for all Lightspan students–in some cases more than double.

Families spend more time with children's homework

Question: Does your mom, dad, or someone in your family spend more time helping you with your homework after you have had the Take Home Lightspan Achieve Now Program?

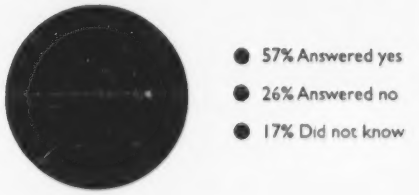
Question: Are you more involved with your child's schoolwork since participating in the Lightspan Achieve Now Program?



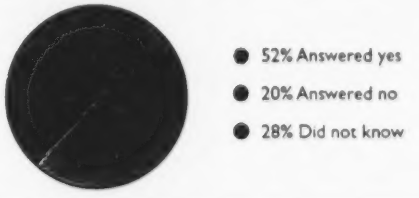
Las Cruces Public Schools views increasing family involvement as the key to raising academic performance and improving retention rates for its students. Families using Lightspan Achieve Now at home became more aware and involved in their children's education, with 55% of students and 75% of parents reporting an increase in family participation.

Students more motivated to learn

Question: Do you like reading more than you did before taking Lightspan Achieve Now home?



Question: Do you like math more than you did before taking Lightspan Achieve Now home?



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Another district objective was to develop a program that appeals to students and effectively motivates them. Survey results show that more than half of students stated that they enjoy reading and math more since using the Lightspan Achieve Now program.

As the family involvement program in Las Cruces, New Mexico, illustrates, children have a natural desire to learn. When immersed in rich, compelling learning environments, they shed perceived personal limitations and succeed. Time after time, children show they thrive in learning environments that challenge their intellect. If you must still be convinced of this, spend a few minutes observing a group of children at play. Watch them as they construct complex rules for the games they play, and keep up with the various intentional twists and turns. These child-designed play environments set high expectations, often much higher than an adult would set, and ask a lot of the children involved. If children voluntarily challenge themselves while at play, shouldn't the school's curriculum challenge them when they are at work (McClure, 1998)?

Designing a Successful Districtwide Title I Program

Gloria Gallegos
Pasadena Independent School District

I'd like to share some of the challenges we have faced in the past few years and the resulting success we have realized in surmounting those challenges to the benefit of our children.

I direct the Title I Program in Pasadena Independent School District, Pasadena, Texas. Our district is large, with approximately 41,000 students attending 45 individual campus sites. In a very short period, we have undergone a transformation in the ethic makeup of our population. Over the last 10 years, we have moved from a population composed of 55% white students, to one that is primarily Hispanic, with over 55% of our students representing Hispanic ethnicity. Fifty-five percent of our population is economically disadvantaged. Twenty-one percent are Limited English Proficient. Eighteen hundred are recent immigrants. Perhaps the most significant variable impacting our district is an influx of over-aged, non-schooled, non-English speaking children that are enrolling in our schools. As a public institution we are expected to teach them all—and we take them all.

Our district had experienced a great deal of fragmentation in implementing different programs. We decided to consolidate all Title programs and all federal funds under one umbrella with the goals of eroding all the "turfism," reducing duplication of services and tasks, and increasing accountability. Prior to this consolidation, nobody was accountable for anything other than the Title I evaluation conducted at the end of the year. As a result, we were putting money into programs, but we really did not know if those programs were effective. Were we receiving a return on the investment? We did not know. Today, all Title programs—all the federal funds—are consolidated. I was assigned to coordinate this group of programs, along with the bilingual ESL and immigrant programs.

Like most districts, we also have certain expectations for accountability at the state level. We have performance indicators to measure the level of program effectiveness. We also have the TAAS—the Texas assessment instrument—to measure individual student achievement. Additionally, we have compliance indicators—federal regulations that are interpreted by the state—by which we must abide. Finally, we have district initiatives.

At the state level we have the Texas Reading Initiative. Governor Bush has taken a leading role in creating the reading initiative. Our district has also implemented its own reading and bilingual ESL initiatives. Our superintendent has also given us the directive that every single campus in our district will be identified as either "Recognized" or "Exemplary" by the state, resulting in another set of initiatives. This is a significant yet critical goal for our 45 campuses.

Many challenges, many initiatives, and many expectations. How do you create the bridge to surmount the challenges and reach the ultimate goal of ensuring all children are successful? Let me share what we have done. You may ask, Has it been easy? No, it hasn't. Has it been hard work? You bet; it has been hard, hard work. But it is paying off.

While meeting with our principals to review the district's disaggregated data from TAAS performance, we identified a significant weakness in vocabulary and oral language. This finding was not specific to Limited English Proficient students. It touched every single child, regardless of ethnic

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background. Our children were very low-language-skilled and needed dramatic improvement in that area. The other area in need of attention was math. With the large influx of children in the bilingual program we had another subpopulation that was growing rapidly, and the growth was projected to continue. We needed to prepare ourselves by creating programs to address the needs of students who were culturally and linguistically diverse.

We gathered committees of principals to review the achievement data and determine areas where we could address the critical needs. As a result, we have implemented several programs. I am happy to report that every single program we have implemented has a high accountability rating and has given us some incredible success stories.

- One of the first programs we implemented was the Host Program. This program is helping students succeed through one-on-one tutoring, brought about through increased volunteerism in our community. We have recruited over 2,000 volunteers across the district and have seen dramatic improvement in reading scores every year.
- We have implemented the Accelerated Reader program, integrating it with the Host Program by using its vocabulary and comprehension testing processes.
- We have established a partnership with the Sylvan Centers and have two Sylvan centers in our schools at the intermediate level (sixth, seventh, and eighth grades). We have realized significant gains, but it is a very expensive partnership.
- We have piloted the Success for All program in three elementary campuses with dramatic results. Of the three elementary campuses, one is classified as "Exemplary" at the state level. The other is classified as "Recognized," coming within a fraction of "Exemplary" during the 1997–1998 school year. We know they will be "Exemplary" at the end of this year.
- Finally, we have implemented Lightspan with some of our campuses and realized a great deal of success. These schools have been able to involve families in their child's education to a greater extent and establish meaningful dialogue between the home and school.

Yet, in talking to the principals and the teachers, we know that we have not met all of the student and community needs. Parent involvement is one of the areas where we still need to improve. As we look at the components of an effective school, we still see that parent involvement is a weak link in our district. Exactly what is meaningful parent involvement and how do we maximize the involvement of parents in our schools? We are ever mindful of our majority of parents who are not English speakers. Some are not school-educated. They are not educated formally; they have other types of informal education, but certainly not formal.

We need additional programs that will help our children enhance their language development. The point of the matter is, if they do not have the language, if they do not have the vocabulary, they cannot be successful with reading, mathematics, or writing. We know that. They must have the language development and the vocabulary in place.

Though school-reform is a slow process, we are making progress. Out of our 45 campuses, we have 23 campuses that are either "Recognized" or "Exemplary" at the state level in the areas of reading, writing, and math. We have 13 campuses that are within a fraction of becoming "Recognized." In addition to student assessment data gained from the state, we have our locally developed evaluation that ensures each school reform program is also assessed. Through this evaluation we have a clear understanding of each program's effectiveness and the contribution it is making to student achievement and school improvement.

I have presented just a few of the challenges and initiatives currently facing Pasadena Independent School District. I am certain that many of these challenges and programs are not unfamiliar. However, by sharing information such as this, we can save time and money, we can improve our efforts, and we can increase our impact on the children and communities we serve.

What Is Lightspan Achieve Now and Why Does It Work?

Bernice Stafford
The Lightspan Partnership, Inc.

Working with more than 2,000 schools in 47 states over the past three years has taught us much about successful implementation of Lightspan Achieve Now. We learned that well-designed, effective Lightspan Achieve Now projects were properly resourced and involved *all* members of the school community, including students and parents. We learned that everyone involved made a long-term commitment to school improvement. School leaders were inclusive, ensuring classroom teachers had a voice in the decision to select and use Lightspan Achieve Now to support student learning.

Case Study: Colvin Elementary School

Wichita Public Schools (USD 259)
Wichita, Kansas

Colvin Elementary is located in a low socioeconomic neighborhood with a rich ethnic diversity. The student body is 34% white, 28% Asian-American, 25% Hispanic, 12% African-American, and 3% Native American. Over 90% of the student population qualifies for free or reduced lunch. One-half of the students speak a first language other than English.

During the 1997–98 academic year, Colvin Elementary, and two other Title I schools in the Wichita district, implemented the Lightspan curriculum-based program as the home-based technology component of a comprehensive reform program designed to impact student learning. The purpose of the initiative was to create a learning environment with community impact and a focus on improved math and reading scores. To reach these standards, Colvin devised a program with a range of key features, including: a longer school day and school year; a strong emphasis on reading and writing; the use of technology for instruction; and a high level of parent involvement. Since this project was partially funded through Title I, a family-involvement component in the program design was critical.

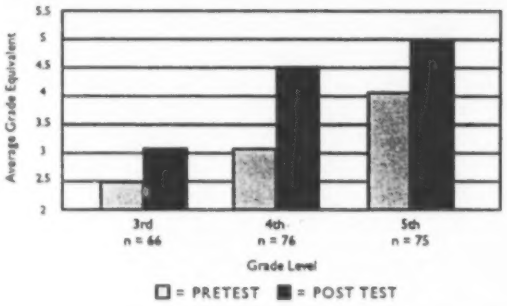
In the fall of 1997, Colvin Elementary began using the Lightspan curriculum-based program in all classrooms for instruction and practice. Teacher workshops, held every four to five weeks throughout the school year, helped ensure effective use of the Lightspan program. Teachers utilized Lightspan for direct instruction, center small-group sessions, and individualized learning improvement. The Lightspan programming was correlated to Wichita standards, enabling teachers to easily align the curriculum to their daily teaching objectives.

Once students became familiar with the Lightspan Adventures in the classroom, Colvin began extending the curriculum into the home through a series of family workshops. In these sessions, parents were familiarized with the Lightspan program to help their children learn at home.

To evaluate the program's impact, the Metropolitan Achievement Test, Seventh Edition (MAT7), was administered to all third-, fourth-, and fifth-grade students in the fall of 1997. Students at Colvin were then post-tested in April 1998. The Peabody Picture Vocabulary Test, Third Edition (PPVT-III), was administered in February 1998 and again in May 1998 to grades K–2.

Grade-equivalent gains of .7 to 1.3 realized in reading

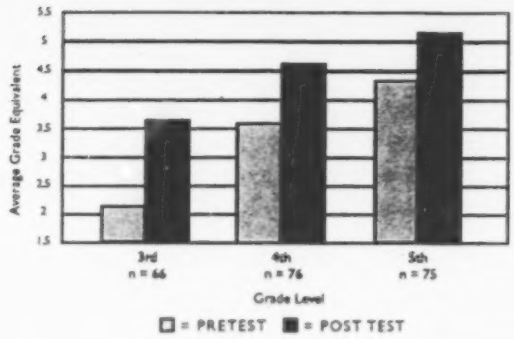
METROPOLITAN ACHIEVEMENT TEST—READING



The MAT7 measures a student's ability to integrate, process, and apply a variety of thinking strategies and skills to a specific content area. The reading subtest of the MAT7 for grades three, four, and five tests word recognition, vocabulary, and reading comprehension skills. Comparison of pre- and post-test results show reading gains for all grades. Grade-equivalent levels increased from 2.5 to 3.2 for third grade, 3.2 to 4.5 for fourth grade, and 4.1 to 5 for fifth grade.

Grade-equivalent gains of .8 to 1.1 realized in mathematics

METROPOLITAN ACHIEVEMENT TEST—MATHEMATICS



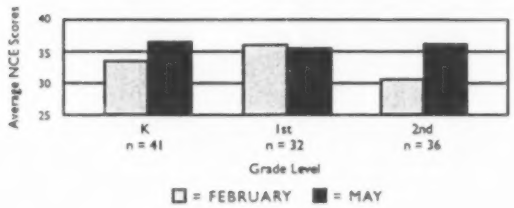
The mathematics subtest of the MAT7 assesses both concepts and problem solving. Pre- and post-test comparisons show mathematics gains for all grades. Grade-equivalent levels in mathematics rose from 2.2 to 3.7 for third grade, 3.6 to 4.7 for fourth grade, and 4.4 to 5.2 for fifth grade.

Impressive grade-equivalent gains realized in reading and mathematics for students in the lowest quartile

Comparison of pre- and post-test results for students who pre-tested in the lowest quartile shows impressive gains for all grades. Average grade-equivalent reading level increases for this group ranged from 0.7 to 1.6, moving from 1.8 to 2.5 for third grade, 2.3 to 3.7 for fourth grade, and 2.6 to 4.2 for fifth grade. Strong grade-level gains, ranging from 1.1 to 1.6, were also realized in mathematics. Grade-level results increased from 1.6 to 2.7 for third grade, 2.1 to 3.7 for fourth grade, and 2.8 to 4.3 for fifth grade.

NCE gains of 3.3 to 6.3 realized in emergent literacy

PEABODY PICTURE VOCABULARY TEST—EMERGENT LITERACY



Two classes realized Normal Curve Equivalent (NCE) gains in emergent literacy as measured by the PPVT-III. Students in kindergarten gained 3.3 points, increasing from 33.7 to 37. Scores for second graders moved 6.3 points, rising from 30.4 to 36.7. Scores for first graders showed a loss of 0.7 points.

Program extends learning into the home

PARENT RESPONSE
How would you rate Lightspan Achieve Now as a means of extending learning into the home?

PARENT RESPONSE
On average, how much time does your child spend per week using Lightspan Achieve Now?

TEACHER RESPONSE
How would you rate Lightspan Achieve Now as a means of extending learning in the home?

TEACHER RESPONSE
On average, how much time do you spend per week using Lightspan Achieve Now as part of your instructional program?

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Since the most accurate predictor of a student's achievement in school is not income or social status but rather the extent to which a student's family supports his or her educational achievement, the Lightspan–Wichita Public Schools Project sought to evaluate the program in terms of family involvement.

Over half of the teachers used the Lightspan program as part of their instructional activities for more than three hours each week. Eighty-three percent of parents reported that, on average, students spent over two hours per week using the Lightspan curriculum in the home, with most students spending more than three hours per week. All of the parents and teachers indicated that Lightspan did a good to excellent job of extending learning into the home, with the majority of parents (82%) and teachers (64%) rating Lightspan as excellent in this regard.

Conceptual Models of Implementation

Successful schools have in mind a conceptual model of a Lightspan Achieve Now school-home connection at the outset. The conceptual model is vitally important because it helps everyone involved think about how the program will be used to attain desired outcomes. For example, if the program is used to augment a summer school program, decisions must be made long before the first session in order to obtain full benefit. Teachers need to be selected, hired, and trained; curriculum alignment will have to be completed; if using a home deployment, family meetings must be scheduled and families notified for equipment distribution at the beginning of the program. Likewise, the same kind of careful planning is necessary for the other models: classroom-based family homework, school-based learning center, or after-school tutoring or homework club. The cornerstone of each model is the placement of Lightspan Adventures within reach of the learner, both in and out of school.

- **Classroom Model**

  A classroom model is typically supported with a complementary family homework model component. The success of this model requires teachers to fully integrate the Lightspan Adventures, which are tied to a lesson plan, into classroom instruction before sending these home with the entire class for completion. Each student works at home two to four nights a week, 30 to 45 minutes per study session for not less than 10 continuous weeks. Learning materials for this model always include a teacher's station and a learning station for each individual student for use at home. Project objectives suggest two optional configurations: four to six student stations for use in a classroom center, and one learning station for every two participating students in a location outside the regular classroom.

- **Learning Center Model**

  A learning center model is usually accompanied by a classroom model. It can also support a family homework or tutorial model. In this model, student learning can occur during the school day or after school. It is a variation on the tutorial model. The typical student will be enrolled in the program for not less than a 10-week period. Depending upon availability, session time will vary from 30 to 60 minutes, two to four times per week. Appropriate learning materials can include a fixed number of learning stations or one learning station for every two participating students.

- **Family Homework Model**

  A family homework model can accompany a classroom model or exist as a stand-alone model. This model in stand-alone mode usually supports parent or family centers and can operate in the daytime, evening, or weekend. When the family homework model accompanies a classroom model, students complete their assignments at home. Although specific `hours, days, and activities will vary, no project should operate for less than 10 continuous weeks. The family homework model requires a learning station for each participating student for the amount of time they are in the program. As a stand-alone model in a parent or family center, it is preferable to have learning stations available on the basis of one for every two participants.

- **Tutorial Model**

  A tutorial model supports individualized student learning and can be conducted during the school day or after school, in the regular classroom or some other location on or off school premises. The typical student will be enrolled in the program for not less than a 10-week period in two to four sessions per week lasting 30 to 60 minutes each. Appropriate learning materials for this model include stu-

dent learning materials for each participating student to use for the duration of enrollment in the program.

- **Summer School Model**

  A summer school model can be a classroom model or combination classroom-and-family-homework model. Instruction is typically organized over a five- to six-week period, four days a week: two days devoted to reading and language arts, and two days to mathematics. Appropriate materials include a teacher's station and one learning station for every two participating students. When family homework is integral to the summer school model, each participating student is assigned a learning station for the duration of the program.

What do all of the above conceptual models have in common? Each has in common a requirement to correlate what needs to be learned to what is studied: that is, targeting objectives to desired outcomes and making a commitment to the amount of extended learning time necessary for success.

To make the electronic school-home connection complete, each home must have a device to play the Lightspan Adventures. The Sony Play Station® game console, an inexpensive video game machine, becomes a powerful microcomputer when attached to the family television. Although a few schools choose to do otherwise, most introduce Lightspan as homework with some link to the classroom.

Theory of Research

Lightspan Achieve Now is theoretically grounded in several areas of academic research, including family involvement, time, learning theory, motivation, and reading and mathematics instruction. The design of the Lightspan Adventures incorporates theories and practices from cognitive psychology, including strategies from mastery learning and teaching that lend support to students' acquisition of the skills, concepts, and strategies of reading, language arts, and mathematics at an accelerated rate. The design also borrows heavily from brain research, thus providing the scaffolding necessary to help students build and expand upon developing mental models, and learn valuable content at faster rates.

It is this foundation that has driven schools and classrooms committed to an aligned instructional program in reading, language arts, and mathematics to Lightspan Achieve Now. The program has proven itself to be a consistently reliable method for increasing each student's "engaged" time-on-task, promoting active family involvement in homework, and facilitating a powerful learning environment for each student.

"In a game, you have to make decisions at every moment. You have to work out your moves. You have to guess what the opponent might do. There is an objective. You want to win. How are you going to win? In addition to the moment-to-moment decisions [tactics], there might be an overall plan [strategy]. You might start out with a strategy or you may develop a strategic plan as you become more familiar with the game. The purpose of the game is to make you 'think on your feet'. There is quick feedback: you win or lose the game. A move may be successful or unsuccessful. Games give you an opportunity to watch your own thinking in action" (DeBono, 1995, p. 1).

If DeBono's conclusions relative to the contribution of games to learning are correct, and Lightspan Achieve Now evaluation results appear to confirm his theory, students using Lightspan Adventures learn regardless of whether they "win" or "lose" in a particular activity.

Case Study: Central Elementary School

Duncanville Independent School District
Duncanville, Texas

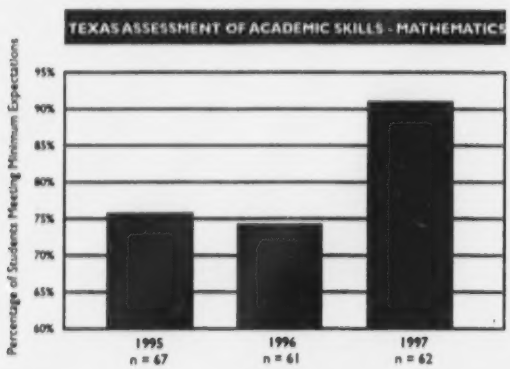
Central Elementary School, located about thirty minutes outside of the metro-Dallas area, wanted to prove that every student, including the school's 62% low socioeconomic status students, could succeed academically. Central Elementary serves a diverse student population, with an ethnic demographic of 48% African-American, 35% white, 16% Hispanic. In addition, 12% of the school's students are learning English as a second language. Two program objectives guided the school in achieving their academic success goal: first, students would need to spend more time on academics; second, parents would have to increase their involvement in their children's education. With the award of a grant from the local school board to become the district's School for Telecommunications, a special focus on bringing new technology into the classroom was also begun. Lightspan Achieve Now was an integral part of the school's technology initiative.

During the 1996–1997 school year, Central Elementary used Lightspan Achieve Now in two third-grade classes. Teachers

introduced the Lightspan materials at presentation stations in the classroom, and students continued learning at home with their families using Lightspan Achieve Now software. The school hosted Lightspan Family Workshops as a way to develop relationships with parents and followed up with parent-teacher conferences throughout the year.

To evaluate the effectiveness of the Lightspan Achieve Now program, Central Elementary conducted a school-based action research project. Rather than imposing another test on participating students, the school chose to use annual Texas Assessment of Academic Skills (TAAS) scores as the basis of comparison. Scores from Central Elementary third-grade students from years prior to the implementation of Lightspan Achieve Now were compared with the performance of third-grade students following one year's use of the Lightspan program.

Dramatic gains in mathematics scores



TAAS results show significant gains in mathematics, with 17% more students achieving passing scores in 1997 than in 1996, reversing a decline in test scores for third-grade students in the prior year. Scores were especially impressive among the 63% of students identified as economically disadvantaged. Among this group, 89.7% received a passing score, a 20% increase over the preceding year.

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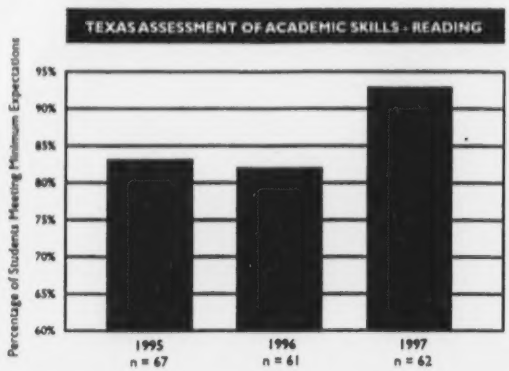
Significant gains in reading scores

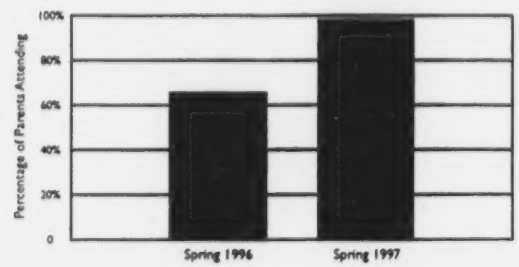
TEXAS ASSESSMENT OF ACADEMIC SKILLS—



In reading, an additional 11% of third-grade students using Lightspan Achieve Now received passing scores on the TAAS in 1997 than in 1996, reversing a decline in test scores for third-grade students in the prior year. The subset of economically disadvantaged students also realized an impressive 11% gain in 1997, with 89.7% receiving a passing score.

Increase in family involvement

PARENT EVENT ATTENDANCE



Another program goal was realized as the level of family involvement increased. Attendance at parent events rose from 65% prior to Lightspan Achieve Now implementation to 99% in 1997. All but one of the third-grade parents attended parent-teacher conferences throughout the school year.

Lightspan Adventures are designed to teach on three levels: perceptual, conceptual, and content. A student's experience, or the perceptual knowledge brought to a learning task, is aided by the conceptual model (mental model) introduced in the Adventure. Combined, these models aid the student's acquisition of content. "[Perceptual knowledge] is the

type....that we wish students to have in any aspect of the curriculum. The degree of genuine mastery or competence that they have is the degree to which what they have studied [content] has been incorporated into their perception of the world" (Caine and Caine, 1997, p. 114-115).

"Perception is both present and future: a source of accomplishment. Selection. Innate motivation. What are the things that we choose to look at? Where do we direct our attention? Sometimes there are things that immediately catch our attention. At other times our attention flows from one thing to another. There are times when we need some framework for directing attention deliberately" (DeBono, 1995, p. 51). The engaging characters and interesting storylines in Lightspan Adventures, although extrinsic, serve this purpose. They help students build a personal relationship with the curriculum, and as that occurs, motivation becomes intrinsic. As students become partners with the teacher, other students, and the Lightspan Adventures, collaborative learning is a direct consequence.

According to Csikszentmihalyi, all learners start at the same place—experts and students alike, young, older, struggling, and successful. "The building blocks of most symbol systems, words make abstract thinking possible and increase the mind's capacity to store the stimuli it has attended to....Once they are stored in memory, however, this feeling of ownership—or better, of connectedness with the content recalled—becomes even more intense....It is useless to remember facts unless they fit into patterns, unless one finds likenesses and regularities among them....The simplest ordering system is to give names to things; the words we invent transform discrete events into universal categories. The power of the word is immense....After names came numbers and concepts, and then the primary rules for combining them in predictable ways....(T)he person whose memory is stocked with patterns of information is autonomous and self-contained" (Csikszentmihalyi, 1990, p. 124-125).

Students attending schools that have provided access to Lightspan Adventures have this advantage. Take, for example, students in New York City's public schools who had access to both Lightspan Achieve Now and the popular and effective intervention: Success for All.

Case Study: The Harriet Tubman Learning Center, P.S. 154
The Grove Community School, P.S. 157

New York City Public Schools—Chancellor's District
New York City, New York

The designated Chancellor's District was reorganized in the 1996–97 school year to bolster performance at 12 of the district's lowest performing schools, which were threatened with registration revocation by the State Education Department. The goal of the Chancellor's District is to have all students performing at or above grade level in reading and mathematics. To help students meet this objective, the district provided Lightspan's interactive curriculum both in the classroom and at home to over 200 students in P.S. 154 and P.S. 157's second and third grades during the 1997–98 school year.

Both schools serve diverse student populations. P.S. 154's ethnic demographics are 90% African-American, 8% Hispanic, and 2% other. Ninety-eight percent of the students qualify for free or reduced lunch. P.S. 157 serves a similar population, with two-thirds of the student population of Hispanic background and the remaining one-third African-American. Seventy-five percent of the school's students qualify for free or reduced lunch.

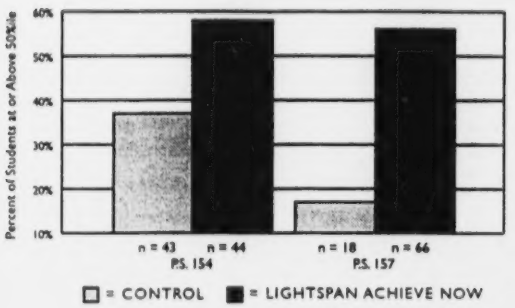
Exemplary administrative leadership and strong teacher ownership were key factors in the program's success. Principals and site coordinators effectively communicated their goals in using Lightspan Achieve Now. Teachers had a clear sense of how the program could support their teaching objectives, and they defined their goals accordingly. Initial product training gave teachers a viable, active, hands-on resource to engage and motivate students. In addition, initial product training addressed the integration of Lightspan Achieve Now with Success for All, the district's reading program. All teachers used Lightspan Achieve Now to support classroom content and themes, spending between 6.25 and 8.75 hours per week integrating the program into their existing curriculum. Teachers distributed the Lightspan curriculum in the children's weekly homework sheets, which were monitored by the principal and assistant principal.

Program outcomes were evaluated through standardized testing. Third-grade students throughout New York City

took the Comprehensive Test of Basic Skills (CTBS Reading) and California Achievement Test—Mathematics (CAT5) in the spring of 1998.

Significant increases in the percentage of students performing in upper 50th percentile in reading

COMPREHENSIVE TEST OF BASIC SKILLS—READING



Lightspan students at P.S. 154 showed significant gains, with 17% more students reading at or above the 50th percentile compared with other third-grade classes in the same school. All classes used Success for All as their reading program. Yet students in the two classes using Lightspan Achieve Now demonstrated greater reading development, with 56.5% of students scoring at or above the 50th percentile, compared with 39.5% in two classes with just Success For All.

Similarly, students receiving a reading program which incorporated Lightspan Achieve Now and Success For All at P.S. 157 realized impressive gains, with 39.6% more students testing at or above the 50th percentile. This is compared with all other third-grade classes in the same school with a reading program which was limited to Success For All only. In the three Lightspan Achieve Now classes, 56.6% of students tested at or above the 50th percentile, while only 17% of the students in the remaining non-Lightspan class reached the 50th percentile.

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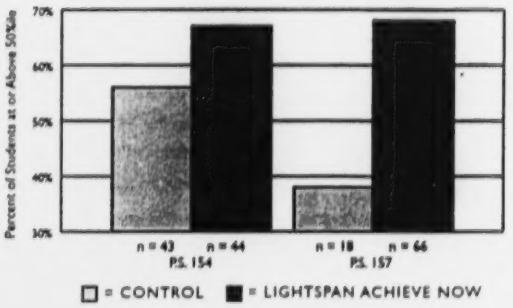
More students using Lightspan Achieve Now test in upper 50th percentile in mathematics

COMPREHENSIVE TEST OF BASIC SKILLS—MATHEMATICS



Lightspan Achieve Now students also showed strong performance in mathematics. At P.S. 154, 12.5% more students tested at or above the 50th percentile when compared with other third-grade classes in the same school. In a similar comparison, 29.9% more students tested at or above the 50th percentile in mathematics at P.S. 157.

These significant gains in test scores confirm the superior advantage of students using Lightspan Achieve Now over students without access, or with non-game interventions. Lightspan Adventures guide students non-coercively to a place where they identify the learning objective and plot a strategy to win. As they navigate through the game, they monitor the screen for information and clues relative to the game goal (learning objective); while navigating through the game they continuously receive additional information, and as they do they develop skill in discounting irrelevant information. Continuing to navigate, students absorb new information, and access and analyze information already stored in their inactive memory banks that might be relevant to the problem presented by the game. Quickly discounting information not currently needed and restoring it to their memory banks, students begin to acquire a methodology regarding the use of conscious and subconscious inputs (what to hang onto and what to ignore) to solve all manner of problems. As they reflect on and integrate and store these inputs they begin to understand why some were useful and others not. In other words, at that stage of knowledge-processing, students are beginning to internalize building blocks that help them develop the necessary cognitive structures to aid learning.

In addition to the mental processes and change students undergo, they also undergo behavioral changes. This is readily apparent to any observant adult who has watched students play a Lightspan Adventure. Through a process of continuous feedback, students learn how to evaluate inputs as they are guided through a systematic approach (planning behaviors) to problem solving. As they internalize these conscious and subconscious behaviors, even the casual observer can tell when they begin to rely less on wild guesses to solve problems and show more confidence as they deliberately use the new planning skills they are acquiring to solve problems. The deliberateness with which they make moves as they play is indicative. With a growing awareness of how to use these newly developed skills and strategies, students are soon approaching other learning using the same planning behaviors they have been taught by playing the Lightspan Adventures.

There is ample evidence to support this theory, including the work of DeBono, the aforementioned Csikszentmihalyi, Feuerstein, Caine and Caine, the psychologist Jean Piaget, and physician Maria Montessori, among others. Like others cited, Montessori dedicated a lifetime to observing learners. She was particularly interested in using her knowledge to improve teaching and learning. Montessori often referred to a construct she called "control of error." She designed and sought learning materials designed to self-correct rather than require learning to be mediated by teaching. Lightspan Adventures are in the tradition of learning materials Montessori would have labeled "control of error."

Take, for example, the Mars Moose Adventure, Walkabout (World Sport Day). One of the three activities, "Write an Article," helps students develop important reading comprehension and vocabulary skills by replacing pictograms with words to make complete sentences. Numerous reading research studies inform us that unless students can interpret words on the fly (that is, read fluently) to gain knowledge, they cannot be said to comprehend. Therefore, the learning objective of this game is for students to choose and insert the appropriate picture, which the computer transforms before a child's eyes into its corresponding word. As the student continues to make correct selections, the computer continues to transform pictures to words. Thus, the relationship between picture and word is explicit and unambiguous.

Implementing Lightspan Achieve Now in Title I Programs to Extend Learning and Facilitate Family Involvement

Larry Vaughn, Ed.D. and Doris Fassino, Ed.D.
The Lightspan Partnership, Inc.

Founded in Research

Over 30 years ago, in response to challenges directed at the initial Title I program, James Coleman (1966) described the determinants that impact the learning of children of poverty. His findings on the influence of family background on a child's education initiated a long, tireless journey of discovery to find ways to effectively reduce the wide disparity created by socioeconomic status. Dedicated educators and researchers have spent entire careers in search of ways to reduce the achievement differences among subgroups of our children.

Lightspan Achieve Now, by design, accepted the challenge of the Coleman Report, gleaned from the research that makes a genuine difference in learning for children, and creatively redefined the "system" of education to include both the school and the family. Lightspan created solutions that build on the strengths of schools and families, converting shortcomings to improvement opportunities and effectively leveling the educational playing field for children.

While the potential for "Learning for All" is in the Lightspan Achieve Now design, the reality is in the strength of the partnership among Lightspan, individual schools, and families. With experience in over 2,000 schools, educators throughout the United States and Puerto Rico have contributed to the development of effective conceptual models, shared their learning and enthusiasm, and have definitive proof that student achievement can be improved when implemented according to the research.

Based on Sound Reform Practice

The Lightspan Achieve Now program has taken the research-based strategies of extended learning time and family involvement to the level of exciting innovation.

Effectiveness, however, is connected to the following requisite reform practices:

- Alignment of standards-based assessment, curriculum, and instruction
- Integration of technology
- Targeted and continuous teacher and staff professional development
- Identified goals and benchmarks for student performance
- Ownership and collaboration among school leadership, faculty, and families
- Technical and collegial support from successful practitioners in school reform and improvement
- Evaluation design that includes both implementation process and student achievement results
- Blending and coordination of resources from multiple services (Title I, Goals 2000, etc.) to support, expand, and sustain a sound implementation

The improvement of student achievement is assured when extended learning time, family involvement, and the above-listed practices are integrated as a comprehensive whole.

Lightspan Achieve Now encompasses each of the above components. Designed as a standards-based, interactive curriculum that spans both home and school, the program extends learning time through a technology-based delivery system. The assessment, curriculum, and instructional program at school and at home are the same. Ongoing professional development activities are provided for all stakeholders—parents, teachers, and school staff. Families and the school staff learn to integrate the Lightspan curriculum into both formal and informal learning opportunities, actually realizing far more learning time than logged in direct instruction and practice.

This approach provides a critical advantage for Title I students. The tentacles of Lightspan Achieve Now link to previous learning and bridge to future learning. The genius of the Lightspan design captures every opportunity to grab a child's attention, provoke questions, make connections, and explore one's own thinking, thus providing an exciting and stimulating learning experience that stretches the mind and the imagination. The Lightspan design is not accidental; the blueprint is deliberate and developed to capture a child's interest in sophisticated and demanding ways. The result is a richness of experience generally missing in a Title I child's learning. Lightspan Achieve Now serves as an equalizer of learning opportunities.

Aligned to the school's curriculum and evaluation system, assessment is integrated throughout the Lightspan Achieve Now program. Informal assessment and immediate feedback are embedded in the learning activities, motivating students in tantalizing ways to push forward to next learning. Student progress checks and progress tests are provided for formative assessment. Pre- and post-tests are available for summative assessment. Programmatic evaluation is conducted through self-evaluation or school-based action research.

Connecting families and schools with the identical assessment, curriculum, and instructional program bridges differences and refocuses on the common goal of children's success. This establishes the opportunity to bring schools and families together in meaningful ways, creating a larger "village" of support for children and opening the doors of communication and collaboration. To support this developing expansion of learning, Lightspan provides technical support and assistance through on-site consultants and the Lightspan Partner Line that is accessible to both schools and families.

Designed for Results

To reap the full benefits of student achievement, a Lightspan Achieve Now implementation requires a comprehensive, multiyear plan. The school's reform architects redefine the system of education to include families and the school. School structures and processes are modified to create learning environments focused on learning rather than teaching. A laserlike focus on reading and mathematics is a non-negotiable. The planning process brings all stakeholders together to improve achievement for all children, redesign for greater effectiveness, and strategize for managing the change. All categorical, competitive, and locally funded programs are realigned and included as contributors to the comprehensive, multiyear plan.

The vision of the ideal Lightspan Achieve Now implementation is defined and shared among the stakeholders. There is a pervasive understanding of the plan and an aggressive, impatient approach to finding creative ways to bring it to realization.

The journey from today to the improved future is not linear. With few exceptions, schools do not enjoy the luxury of comprehensive design followed by immediate, full implementation. However, the first step is to create the overall plan, then develop a keenness for recognizing and seizing opportunities that bring the design to fruition. The process is a series of iterations, each moving closer to the ideal. Winners stay relentlessly focused on the vision.

Local circumstances may necessitate launching a Lightspan Achieve Now implementation by focusing resources on a targeted group of students, classrooms, or grade levels. Although the launch may be limited, its success depends on implementing the program consistent with the research on which it was designed. The combination of extended learning time and family involvement offers the greatest advantage for students in Title I programs. In concert, these two critical elements equalize the learning opportunities for children requiring more time and extended opportunities to learn.

If a phased-in implementation is chosen, planners and leaders must be cognizant of the disadvantages of the strategy so barriers can be overcome. The education profession has a long history of adopting new programs without affording the time and effort required for sound implementation and evaluation. This practice perpetuates the "here today, gone tomorrow" perception of school improvement.

To maximize the potential of any new program requires a three- to five-year commitment of intense professional development. The first year of an implementation is the time to get acquainted with the new program and its integration with the local assessment, curriculum, and instructional program. Time and practice are required to fully understand the theoretical base for the program design, build a deep knowledge base, and skillfully integrate it into a meaningful, holistic program. There are no short cuts. Ongoing coaching, mentoring, and collegial support are essential ingredients for successful implementations.

Limited or fragmented implementations not only reduce Title I program effectiveness but reinforce the disconnectedness struggling learners experience in their schooling. Children receiving Title I services require closely aligned assessment, curriculum, and instruction; highly motivating instruction focused on identified individual learning needs; the gift of additional time; and a cohesive support system of home and school. They need from their teachers, both at home and at school, the promise of strong, lasting partnerships that provide care, consistency, and challenge.

The transition to a more effective way is an opportunity to reflect on the current situation and focus on those practices that have a strong research base and a high probability for greater student productivity. Two decades ago, Ron Edmonds reminded us that we need to spend as much time avoiding things that don't work as spending time implementing those things that do work. The transition challenge is to focus on practices that have the highest positive impact for children's learning, catapulting them on the road to success. Sydney Harris, in his tiny book Winners & Losers, reminds change managers to stay focused on the intended end results. Lightspan Achieve Now partners with you in the challenge and the journey to improved performance for Title I students.

If Schools Account for Thirty Percent of Test Score Variation and Families Account for Seventy Percent, Then What is a Hundred Percent Solution?

Dale Mann, Ph.D.
Teachers College, Columbia University

Recent History About Helping the Neediest Children

Can you imagine a world without Title I? Such a world once existed. There are some of you who are of my generation in the school business. Can you remember a time when you had to go to your school board and beg for local resources for the kids who most needed it? When you had to try to get dedicated help to the most disadvantaged children served by the school? When you couldn't go to the state and you couldn't go to the federal government because there were no federal programs for the neediest children? I can remember.

I used to work for Lyndon Johnson and I happen to have had the opportunity to be in the old office of education at the moment when the president said he wanted a billion dollar program for elementary and secondary schools. People said, "A billion dollars!" This was in 1965 when a billion dollars was a lot of money; now it's a rounding error in the federal

daily accounts. The president said he wanted that money to go to school districts to help children who otherwise were not going to make it in this society.

Today there is a lot of debate in academic circles about the War on Poverty. Did it work? Did it not work? The people who are most skeptical about its benefits are those people who did not need its assistance. But the people who have had that help are pretty clear. It has changed lives and, while we haven't built a Great Society, the work that you do in Title I is at the top of the list. So I want to close the circle in my own career by simply recognizing the leadership, the dedication, the imagination, and the risk-taking of those who have been involved in Title I from the beginning.

Getting Help for Schools from the "Other Educators"

Now it's the case that as a society we ask schools to do too much. As a society, we dump every problem on the school's doorstep, and as a society we haven't figured out how to get the other educators involved in the work of learning. If you know about the "other educators," you may remember—since we are taking a trip back in time now—you may remember a man named James Coleman. The Coleman Study (1966) asked, "Where do children learn? What are the sources of children's learning?" Coleman had a massive data set in which, it turns out, the most significant learning and the most important teaching came from the child's first teachers—their parents—and from America's smallest school—the home.

But if those insights are valid, and they are, the next question for school improvement is, How can we better connect all the educators? How can we put in place something systematic so we are buttressing the work of teachers in schools with the work of parents. How can we connect the home to the school and back again? Until we do that, we will not have all this society's educators working together.

Instructional Technology and Social Purpose

What about those other "educators" out there? "Educators" that look a lot like entertainment, look a lot like the media, look a lot like broadcast-quality video. They have the imagination of our children and while we could think of them as canons for learning, they are not often loaded with social purpose.

I believe that, with technology, we are creating a new kind of educator and a new delivery platform for learning. Isn't technology beginning to be widely available and democratically available to all children? Isn't it possible that we can connect the dots between the learning needs of children, the home as a site of learning, the parents as teachers, the values and the excitement of things which are entertainment in part, education in part and delivered through low-cost and widely available digital technology?

Lightspan Achieve Now

I think Lightspan Achieve Now connects the dots. I think Lightspan comes closer than anything else I know in this country to putting in service of children everything we know about all the ways that children learn.

But, in addition to the other things I do, I am a professor and I spend a lot of time looking at data about the effectiveness of various instructional technologies. What happens when you put Lightspan Achieve Now into a school district? Please let me begin at the end: It works!

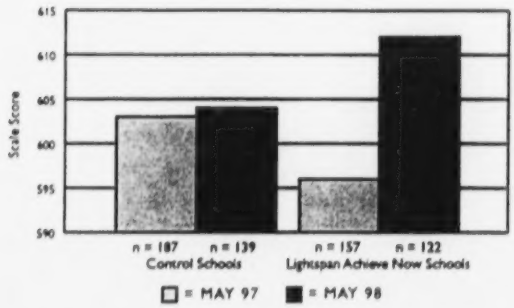
Current Research about the Effectiveness of Lightspan Achieve Now

In our current research, with the cooperation of the Adams County 50 Public Schools in Colorado, we have an "experimental/control" situation—schools that do have Lightspan and schools that don't have Lightspan. We have children and scores before they had Lightspan and after they had Lightspan. When you have both "experimental/control" and "pre" and "post" you have a "Solomon four-square" research design, the most powerful way to do research about the effects of programs.

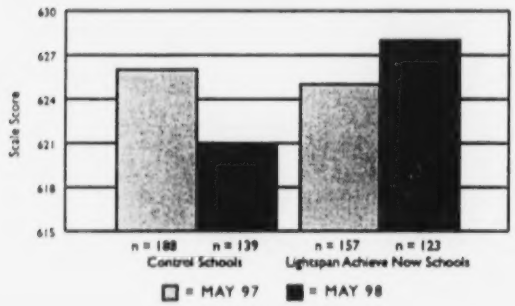
We looked at Lightspan Achieve Now in three different schools in the district. Depending on the site, between a quarter and three-quarters of the children in these schools are Title I eligible. They are the kids who most need things that work. The students represent a mix of races and ethnicities. The achievement data come from third-grade students in three matched pairs of schools; schools with Lightspan and schools without. When you look at the schools that use Lightspan Achieve Now, they outperform the other schools in every dimension—reading, language arts, and mathematics. We have CTBS scores that indicate a

difference in math performance of 16 points and a reading performance difference of 8 points.

COMPREHENSIVE TEST OF BASIC SKILLS—MATHEMATICS



COMPREHENSIVE TEST OF BASIC SKILLS—READING



As any of us consider data about children's performance, one important question is: Can this help all children of all performance levels? The answer about Lightspan is: Three of the four quartiles, ranked by prior achievement, get better with Lightspan. And the really good news is that the most needy children, the kids in the lowest quartile, outperform their colleagues year after year in both mathematics and reading. The lowest quartile students achieved the greatest gain during the last school year, with the lower boundary rising 13%, from a mean scaled score of 937 to a post-Lightspan score of 1055.

How Lightspan Achieve Now Works

This unambiguous achievement score data from schools with and without Lightspan Achieve Now indicates that the program works, and it probably works for these reasons:

- First, it extends the learning day. The kids are taking the Lightspan materials home with them. The teacher launches it in the classroom and it is delivered home in the backpack.
- Second, all the materials are connected to school teaching and learning objectives and to the state frameworks.
- Third, Lightspan Achieve Now and the Sony PlayStation game console are both easy and fun to use.
- Fourth, all the lessons and all the activities are success-oriented. The parents love it; the kids love it; and therefore they spend time on it. So you get big increases in the amount of learning time spent by these children with their parents at home, and that extended learning time happens because, in addition, they watch less TV.

One of the really intriguing things about Lightspan is that it runs on the Sony PlayStation game console platform. The Sony PlayStation doesn't have a monitor. It's got a little umbilical that you stick in the back of the television, and guess what? The second you plug it in, the PlayStation overrides commercial television. No more 4 PM trash-talk TV for kids home alone.

With Lightspan and the Sony PlayStation, parents and schools are taking television from a passive, spectator event and are transforming it into an interactive learning event. You have centered the children and their caregivers on a curriculum of the home. It's this creation of a curriculum of the home that increases learning time in the home.

These results come from the first year of a multiyear analysis of the Lightspan Achieve Now program in the Adams 50 County School District in Colorado. In my view, Lightspan is a very careful company dedicated to quality. They want to premise what they are doing on the best analysis they can get to improve their programs and to increase the ways they can support school reform and enhance student achievement.

They, like you, care about children and improving their learning.

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Lightspan Achieve Now Supports Effective Reading Strategies

Jay Blanchard, Ph.D.
Arizona State University

My particular interest is the use of technology to assist children as they learn to read. Recently, a document was published that will impact the way we go about teaching children to read and ensuring all children read. The study, *Preventing Reading Difficulties in Young Children*, was funded by the Department of Education through the National Academy of Sciences and the Committee on the Prevention of Reading Difficulties in Young Children. It is authored by a group of research scientists and a few classroom teachers who examine what the research tells us about avoiding reading difficulties and enhancing reading achievement.

Very briefly, let me summarize a couple of the recommendations, many of which will look familiar to those of you who have been in education for a period of time:

Word Recognition

- "Beginning readers need explicit instruction and practice that leads to an appreciation that spoken words are made up of smaller units of sound." Notice "explicit instruction." Notice "practice." It's now okay to teach. It's now okay to provide practice. It's now okay to talk about smaller units of sound. Phonemes, graphemes, and morphemes are no longer taboo.

- "Children should be encouraged to sound out and confirm the identities of visually unfamiliar words." A number of years ago I was supervising student teachers in Tempe, Arizona. Arizona was the hotbed of whole language. I once watched a teacher tell a child that was struggling with a word, "Do not try to sound the word out; just guess." God put that oral listening language background into that boy's head and he was trying to get from that oral listening language background to print and he was being told, "Don't do that." Well, now it's okay.

- "Students should confirm the identities of visually unfamiliar words encountered during the course of reading meaningful text. Overreliance on context clues and picture clues should be avoided at the expense of word recognition cues." Word recognition in reading fluency should be assessed regularly in the classroom.

Sight Recognition of Frequent Words

- "Provide independent reading opportunities and fluency practice with a wide variety of texts at a child's independent reading level." Remember reading levels in the old days when we actually used to have independent, instructional, and frustrated reading levels? It's now okay to go back and think about those three levels.

Comprehension

- "Instruction should promote comprehension by actively building linguistic and conceptual knowledge, and this includes direct instruction about comprehension strategies." We can actually go back to teaching comprehension strategies. We can actually go back to talk about what is the main idea, about teaching ideas and providing practice in main ideas.

Writing

- "Instruction should promote writing. Spelling should be developed through focused instruction and practice, and writing should take place regularly and frequently—focused practice, focused instruction."

Instructional Activities Related to Reading Instruction

- "Instructional activities should support daily independent reading, reading interesting and independent reading level text. Daily assisted or supported reading activities at the instructional level."

- "Instructional activities should promote independent reading outside of the classroom such as daily at-home reading assignments and parent involvement in these activities."

The only technology program available in the country right now where you have simultaneous content, instructional content, that exists both in the classroom and at home is the Lightspan program. They will not be the last. That is too powerful a market, and the need is too great. John Kernan, Lightspan's founder and CEO, has spoken about the necessity for technology programs to go beyond the classroom.

Unfortunately, you cannot just stick those technology programs in the home. You need focused instruction and focused practice. Parents and students need to know why programs are at home, what they are doing, and what their student is learning.

Does the School–Home Connection Impact Reading Achievement?

Eisenhower Elementary School provides an excellent example of this "School–Home Connection." Eisenhower is an inner-city elementary school in Mesa, Arizona, that serves a predominantly Hispanic population. At the district's request, I have been involved in looking at the Lightspan program at the first- and third-grade levels for the past three years.

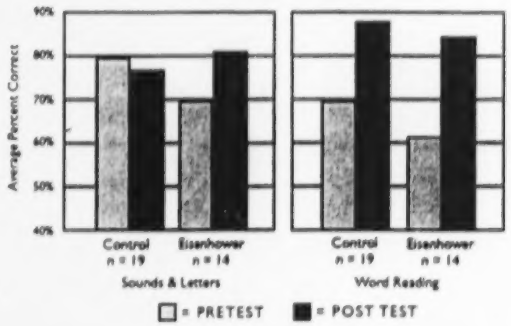
Beginning this year, the Stanford 9 is the Arizona state test given to grades two through eleven. Teachers, principals, and superintendents are concerned about performing well on the test. Many programs, including Lightspan Achieve Now, have been started in order to ensure success. But the Lightspan program is different. It provides classroom materials and also sends the materials home for children to complete with their parents. It has the parent involved in learning.

I have conducted a number of studies using experimental and control groups. The control group came from the building just down the street. They were almost identical classrooms. These were all ESL classrooms. Not a single student in these classrooms knew enough English to be placed in non-ESL programs.

In one study, first- and third-grade students were pre-tested in December and October of 1997, respectively, and were post-tested in April of 1998. Comparisons were made among Eisenhower Elementary classrooms and control classrooms from the demographically similar elementary school within the district. Results of this study show the power of connecting the school and home.

First-grade students show strong gains in language skills and mathematics

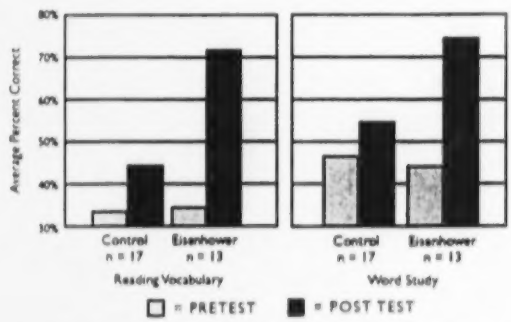
STANFORD ACHIEVEMENT TEST - GRADE 1— LANGUAGE ARTS



During the study period, emergent literacy concepts were emphasized for the first-grade English language learners. The impact of this concentration was revealed on all Language Arts subtests. Eisenhower students realized an 11% gain on the Sounds and Letters subtest compared to no gain for the control class. On the Word Reading subtest, Eisenhower students made a 23% gain, compared with 20% growth for the control students.

Significant gains in reading and mathematics for third-grade students

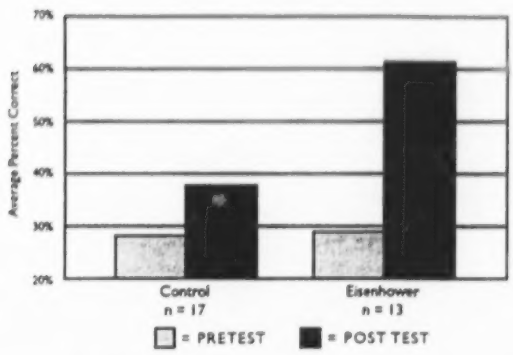
STANFORD ACHIEVEMENT TEST - GRADE 3— VOCABULARY



Statistically significant gains were realized by Eisenhower third-grade students on all Language Arts subtests, with the strongest performance in Reading Vocabulary. Eisenhower students realized an impressive gain of 37.0% during the study period, compared with a gain of just 11.6% for the control group. The Eisenhower students also showed significant improvement on the Word Study subtest, with a 31.3%

increase in the items answered correctly, compared with an increase of 8.5% for the matched class.

STANFORD ACHIEVEMENT TEST - GRADE 3— READING COMPREHENSION



The Eisenhower students demonstrated increased understanding of what they read, improving Reading Comprehension scores by 33.3% compared with only 10.7% improvement in the matched classroom.

To summarize, our research seems to indicate that through video-game technologies, families and schools have access to reliable, affordable, entertaining, and equitable instructional networks that might positively affect student achievement. And, these networks can potentially function anytime and anywhere.

The interoperability provided by video-game technology can develop and enhance the reciprocal influence of schools and homes on student outcomes. This means that when homes and schools are connected and linked through technology, these connections will have effects which are important for everyone. Our research suggests that the technology presents an almost endless supply of fascinating opportunities for all stakeholders in student outcomes—including students—to help the family-school connection.

Lightspan's Comprehensive Approach to School Reform

Richard Fairley, Ed.D.
Former National Director of the ESEA Title I Program

I served as the National Director of Title I for 11 years, but that was back in the 1970's. It's kind of funny. I seem to hear many of the same kinds of questions being asked now that were asked then. Parental involvement is one such question; it seems to be a real problem with the Title I program. It's been a problem since the beginning. I would like you to look at Lightspan as a program that can solve that problem for you.

In an article I have just completed, I make the statement, "If things must remain the same, things must change." I ask, how must we change to maintain our old traditional values? When we grew up, I did not know anybody that could not read. We looked for our students to graduate from high school prepared to go on to college or prepared to take a job and perform competently in that job. We had accountability in our schools. We had few discipline problems. We provided equal educational opportunities for all children regardless of race, regardless of ethnicity, regardless of socioeconomic status, regardless of how long a child lived in this country, and regardless of the child's native language.

When the comprehensive school reform funding came about, I took a careful look at most of the programs. I compared them and found that Lightspan was the only program that does several things disadvantaged children need. Over the past 30 years we have identified some necessary universal things which ensure that children learn. First, we need an in-school curriculum that promotes high standards. Lightspan has that. We need a program that employs the latest technology. We know that disadvantaged kids need more of a dose; the dose they get in school is not going to do the entire job. Therefore, we need before- or after-school programs for them. This isn't new. The first of these programs using Title I money started back in Dade County, Florida, in about 1971. We need a program that extends into the home. We need to extend the school day. We need a school-based, after-school program. We also need a home-based program that will do things such as getting children away from the television and dedicating more time to school activities at home. We need to involve the parents. We need coherent staff development programs.

I have looked at most of the school reform models and many do not do all of these things. However, examination of standardized test data submitted to the U.S. Department of Education from more than 70 schools demonstrates that proper implementation of Lightspan Achieve Now can result in significantly better learning for students. Students partici-

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pating in Lightspan programs typically spend 30 to 60 minutes a day or more on schoolwork. The research further revealed three other yields which are vitally important to school reform: more time for learning, increased family involvement, and students more motivated to learn.

Therefore, let me ask you this question relating to what I believe is our foremost challenge: How do we provide a program for Title I youngsters that ensures coherent services both during *and* after the school day?

I challenge you to review the other models and identify a program with school day, after-school, and at-home components. Our Title I children need a dose that will do all of those things. They need parental involvement. The extent to which Lightspan promotes parental involvement is pretty clear, and of all the comprehensive school reform models, Lightspan leads the pack in this area.

Funding for Lightspan Achieve Now is available from several sources. However, if we are talking about reforming schools, we should not look for outside money. Rather, we should say, "I am going to provide Lightspan for use by our students using our existing funding resources because, perhaps, we are not getting the best results from our current spending of state or local dollars." I would not like to think of Lightspan as something for which we need money from Washington. We need to look at what we are doing. Are we spending our current dollars effectively, as demonstrated by our test scores? If not, then maybe we need to reform, and maybe we need to think of Lightspan as that reform. There are federal dollars in new Comprehensive School Reform programs.

The 21st Century Community Learning Centers Program is available funding. This program started in 1998. The government committed $40 million initially, then another $60 million in September of that year. As of January 1999, there is a competition for $100 million in unencumbered funds. There will be meetings all over the country to talk about these programs—programs to be conducted before or after school and over weekends and summers, in hopes of reinforcing what is going on at school.

There are sources for funding, but we need to take a look at how we are currently spending our own dollars. I will conclude with the following thought: How do we create a coherent strategy for instruction after school for our Title I children? It is critical, because these children need something extra—a coherent program that will extend learning into the home and that will involve the parents.

Conclusion

When computer-based learning technology was first finding its way into schools, a popular periodical asked the question: "Can computers make the grade?" That was the wrong question, resulting in the wrong answer.

The question must not be about the enabling technology but the application of that technology to support student learning. In reframing the question to ask: "Can Lightspan Achieve Now make the grade?," the answer resides in the data presented to you in this document. If your students possess characteristics similar to those represented by the data, then you have your answer. If you need more proof, consider this: In September 1998, Lightspan Achieve Now was named a Skill-and-Content-Based Comprehensive School Reform Demonstration Program Model. In less than eight months, it has been adopted by more than 25 districts in 10 states as their school reform model. Specifically, in Wichita, Kansas, where three schools had already adopted the program to support school reform, a fourth—Anderson Elementary School—named it as the centerpiece of their "Obey-Porter" effort. While it will take at least three years to completely change the culture of the school from one of failure to one of success, the evidence suggested Anderson Elementary, and the more than 2,500 Lightspan Achieve Now schools across the country, are well on the way to a successful outcome.

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